

A.2.19 SWMU 44**Description**

SWMU 44, the Unnamed Main Yard Pond, a former historic earthen impoundment that may have been used for the management of process water and stormwater, is located in the Main Yard. Portions of this pond were located under the present position of the Utility Plant, control house and various pipe trenches. The location and size of the unit are based upon aerial photographs, which show the unit to be approximately 245 feet long and 200 feet wide at its western end and 350 wide at its eastern end, as depicted on Figure A.2.16. The impoundment was closed sometime between 1947 and 1951.

As summarized on Table A.2.16, 22 borings, ten soil samples, two monitoring well groundwater samples and eight hydropunch samples have been used to characterize this SWMU. Additionally, data from adjacent areas (AOC 24, PAOC 7, PAOC 81, PAOC 83 and Phase I OWSS Area MY5) have been included on Table A.2.16 for delineation purposes.

Twenty borings were installed during the 1st-Phase RFI. Four soil samples (one sample each of fill material from SB0049, SB0162, SB0163 and SB0213) were collected for analysis of Skinner's List VOCs and SVOCs. During the full RFI, six soil samples were collected from two borings to further characterize this SWMU. Each of the six soil samples collected was analyzed for TCL VOCs and SVOCs, and TAL metals. One sample was analyzed for SPLP metals and physical characteristics¹.

Soils

Stained soils within the fill unit were observed throughout SWMU 44 in many of the borings. The following table summarizes the number of samples where the soil delineation criteria were exceeded within SWMU 44:

Constituents of Concern	Surface Soils (0 to 2 ft) (2 Samples)	Fill Material (>2 ft) (6 Samples)	Native Soils (2 Samples)	Totals (9 Samples)
Benzene	0/2	0/6	0/2	0/10
Other VOCs	0/2	0/6	0/2	0/10
Benzo(a)pyrene	0/2	0/6	0/2	0/10
Other SVOCs	0/2	0/6	0/2	0/10
Lead	0/2	0/2	0/2	0/6
Other TAL Metals ^a	0/2	0/2	0/2	0/6

^aTotals do not include naturally occurring metal compounds in excess of the delineation criteria (Al, Ca, Fe, Mg, Mn, K and Na).

¹Physical characteristics specified in Appendix A, Task IV of Module III of the HWSA Permit included saturated and unsaturated permeability tests, moisture content, relative permeability, bulk density, porosity, soil sorptive capacity, CEC, TOC, pH, Eh and grain size distribution.

Surface soils (0 to 2 feet bgs)

No notable staining or elevated headspace readings were observed within the surface soils collected from SWMU 44, except for TPZ1GW. With the exception of naturally-occurring iron, no COCs were detected above the soil delineation criteria at either of these surface soil sample locations.

Fill Materials (>2 feet bgs)

The lithologic descriptions on the boring logs indicate that visual evidence of petroleum-impacts (e.g., petroleum staining, odors, PID readings greater than 100 ppm, etc.) in the fill material was noted at numerous locations. However, measurable LNAPL has not been detected in any of the monitoring wells or hydropunches at this SWMU. The thickness of the fill layer varies, ranging from approximately four feet (TPZ2GW, TPZ3GW and U04008) to 14 feet (H0261). Similar to the surficial soils, no VOCs, SVOCs or metals (other than naturally-occurring iron) were detected above the soil delineation criteria at any of the remaining fill sample locations.

The SPLP sample from MW-138 (S0S0842B2) contained 2.63 mg/L of naturally-occurring aluminum which slightly exceeds the applicable criteria for SPLP aluminum (2.2 mg/L)². No other metals were detected above the applicable SPLP criteria in this sample. Therefore, the soils are not a source of metal impacts to groundwater.

Native Material

A clay/peat layer underlies the fill material in this part of the Refinery. Consistent with the surface and fill soil samples, no VOCs, SVOCs or metals (other than naturally-occurring iron) were detected above the applicable soil delineation criteria within the native soil at SWMU 44.

Groundwater

Recent groundwater samples collected in 2002 from the monitoring wells installed in and around SWMU 44 indicate that no COCs have been detected above the applicable groundwater delineation criteria. Further discussion of groundwater impacts can be found in Section 8 of the RFI Report. Earlier hydropunch samples from SWMU 44 contained SVOC and metal COCs, which are likely attributable to the sample collection methods and not representative of groundwater conditions within this SWMU.

Summary

Although occasional evidence of stained soils and/or elevated headspace responses are present in the fill material, no COCs (other than naturally-occurring iron), are present in shallow, fill and native soils at concentrations above their respective delineation criteria

²Based on the groundwater criterion for aluminum (200 µg/L), DAF = 11.

at SWMU 44. Based on the 2002 groundwater analytical results, there is no indication that SWMU 44 is impacting groundwater. Therefore, Chevron recommends no further action for SWMU 44.